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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/743,959 | 12/22/2003 | Robert S. Beach | IBM1P044A/SJ09-2000-0124U | 9362 |
| 28875 | 7590 | 09/09/2005 | EXAMINER | |
| Zilka-Kotab, PC | | | KIM, PAUL D | |
| P.O. BOX 721120 | | | ART UNIT | |
| SAN JOSE, CA 95172-1120 | | | PAPER NUMBER | |

3729

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/743,959

Applicant(s)

BEACH, ROBERT S.

Examiner

Paul D. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) 9-16 is/are withdrawn from consideration.
5) ☒ Claim(s) 4-6 is/are allowed.
6) ☒ Claim(s) 1-3, 7 and 8 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This office action is a response to the amendment filed on 7/28/2005.

Election/Restrictions

1. This application contains claims 9-16 drawn to an invention nonelected with traverse filed on 1/20/2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 7 and 8 are, as best understood in view of the rejections under 112 first paragraphs, rejected under 35 U.S.C. 102(e) as being anticipated by Lin et al. (US PAT. 6,175,475).

Lin et al. teach a process of manufacturing a spin valve sensor comprising steps of: placing the sensor (400) in an external magnetic field as shown in Fig. 4; adjusting a magnitude of the external magnetic field to cause the magnetization of a ferromagnetic

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layer (406) in two bias tabs (408,406,432) to be substantially perpendicular (407) to the direction of the magnetic field; heating the sensor above a blocking temperature of both of the antiferromagnetic layers; and, cooling the sensor below the blocking temperature of both of the antiferromagnetic layers in the presence of said magnetic field (see also col. 5, line 1 to col. 6, line 24). The two bias tabs comprise a nonmagnetic layer (408), ferromagnetic layer (406) and an antiferromagnetic layer (432) as shown in Fig. 4.

As per claim 2 the heating and cooling are performed in a single sequence (equivalent with heating and then cooling the antiferromagnetic layers).

As per claim 3 a direction of the magnetic field during the single sequence of heating and cooling is not oriented in a direction parallel (such as perpendicular) to the ABS (see also col. 6, lines 5-7 and 14-16).

As per claim 7 a second antiferromagnetic layer (432) and the free layer (410) have substantially the same width as shown in Fig. 4.

As per claim 8 the first (430) and second (432) antiferromagnetic layers have substantially the same composition (NiO).

Allowable Subject Matter

4. Claims 4-6 are allowed.

Response to Arguments

5. Applicant's arguments filed 7/28/2005 have been fully considered but they are not persuasive. Applicant argues that the prior art of Lin et al. fails to teach dual bias

tabs. Examiner traverses the argument that there is no such as limitations for the dual bias tabs in the claimed invention. According to the recitation in the preamble "two bias tabs for...., said bias tabs being comprised of..." as recited in lines 2-5 of claim 1, the two bias tabs comprise a nonmagnetic layer, ferromagnetic layer and an antiferromagnetic layer, which is taught by Lin et al. It is not clear what the structural definition for the two bias tabs is. Examiner assumes that the two bias tabs are formed with more than one bias tab layers such as the nonmagnetic layer, the ferromagnetic layer and the antiferromagnetic layer.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D. Kim whose telephone number is 571-272-4565.

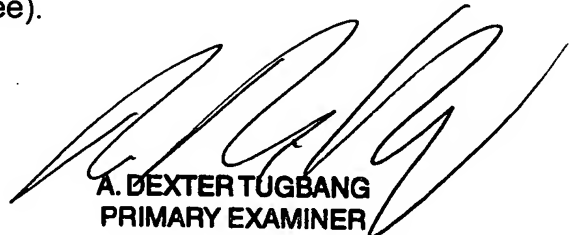
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The examiner can normally be reached on Monday-Friday between 7:00 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pdk



A. DEXTER TUGBANG
PRIMARY EXAMINER